CHAPTER – V

CONCLUSION

Socio demography

- More number of infertile patients were in the age group 36-40.
- BMI was high for nearly 50% of the patients considered for the study.
- Nearly 1/3\textsuperscript{rd} of the total were found to have 86-90 cm as WHR hence they are considered obese.
- Almost 75% of the infertile women had irregular menstrual cycle compared to the normal.
- Higher income group were more in number complaining for infertility.
- Majority of the patients were found to have primary infertility.

Factors for infertility

- Most of the patients were found to be infertile due to ovulation problem followed by endometriosis and uterine problem. Thyroid and stress factor accounts for equal number and the remaining fall into the unexplained category.

Biochemical investigations

- The haemoglobin levels in the patients beyond 30 years were found to be anaemic.
- Lipid profile except HDL was found to be increasing indicating dyslipidaemia in infertility.
- TSH level increased T3, T4 was decreased predicting hypothyroidism.
- FSH, LH, PRL were increased, the hormonal imbalanced lead to ovulatory dysfunction resulting in infertility.
- AMH values were found to be either abnormally high indicating PCOs or too low not providing ovulation.

**Phytochemical analysis**

- In phytochemical screening through GCMS and FTIR nearly 25 compounds were reported to be present in the selected herbs and 25 compounds in polyherbal formulation.

**Insilico analysis**

- The compounds from polyherbal formulation were screened for docking, tested for drug-likeness and bioactivity. Only 4 compounds answered. **Tetradecanoic acid, octadecanoic acid, Hexadecanoic acid and phytol.**
- The 4 components were docked against CYP17 the target along with clomiphene, the standard drug for infertility using discovery studio (2.1).
- **Octadecanoic acid** was found to bind with strong affinity and more hydrogen bonds. The docking score also was found to be high. Hence **octadecanoic acid** may prove to be a potential drug to promote fertility.

**Suggestions and Recommendations**

- Obesity reduction enhanced active lipid metabolism which plays a vital role in metabolic syndrome like infertility, cardiovascular disease, cancer and atherosclerosis. Hence weight reduction helps in successful pregnancy.
- Intake of nutritious diet from the early age supports ovulation and fertility in female. In male it enhances sperm count and maintains good quality of sperm.
- Early diagnosis and effective treatment is recommended.
- It has opened new avenues for further invitro analysis in this drug molecule.

Octadecanoic acid stearic acid from the poly herbal formulation is found to be the active phytoconstituent that could prevent infertility. It may prove to be a potential drug to promote fertility on further appropriate analysis.